

THE UNIVERSITY OF CONNECTICUT

CIVIL & ENVIRONMENTAL ENGINEERING

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TRACKING THE EVOLVING ROLE OF RIDE SOURCING IN NEW YORK CITY

Ride source is among the fastest growing services in the transportation sector. While the service initially served a niche market, ridership has boomed in recent years. Daily ride source pickups in New York City have increased from about 60,400 pickups in January 2015 to about 550,000 pickups in December 2017, an 810% increase. The biggest contributor is a 40-fold upsurge in ridesourcing trips originating in the outer boroughs, which now constitutes 56% of that market. Even though ride source broke into the transportation landscape almost seven years ago, research studying its effects has been stunted by the limited open source data made available by TNCs. This study aims to supplement existing research by analyzing temporal patterns of for-hire services in a range of transportation, land use and social contexts within New York City in order to understand how ride source was initially used and how it is used currently. For the two papers being presented, we analyzed ride source, yellow taxi and green taxi temporal patterns by day of week and time of day for 2014 and 2017 and characterize these patterns in distinct neighborhood groupings. Using a set of demographic, social, economic, transportation and land use variables, Ward's Clustering Method will be used to identify similar taxi zones in order to define a set number of unique neighborhood clusters. Supplemental work to conclude these studies include linear regressions attempting to predict total ridesource pickups as well as use pickups by selected periods of the day by taxi zone.

Key findings from our studies include that temporal trends in ride source and for-hire vehicle use have changed between 2014 and 2017, indicating that these services are being used differently now than at the beginning of the study period. Within Manhattan, ride source growth has mainly contributed to the increase late night trips. Outside of Manhattan all periods of the day have experienced a surge in pickups with the largest increase coming at night. Many of the outer borough neighborhoods in which ridesourcing trips originated are home to minority, relatively low-income populations, who are comparatively poorly-served by public transit, yet have low car ownership rates. It is possible that these trips in the outer boroughs are being taken by local residents to fill gaps in

mobility services, given that they are less well-served by public transportation and other for-hire vehicles such as yellow taxis.